

Title (en)

MEDIUM TRANSPORT AND HEAT EXCHANGE DEVICE OF IRON CORE OF ELECTROMAGNETIC DEVICE, AND EDDY CURRENT SEPARATOR

Title (de)

MEDIENTRANSPORT- UND WÄRMEAUSTAUSCHVORRICHTUNG FÜR EISENKERN EINER ELEKTROMAGNETISCHEN VORRICHTUNG UND WIRBELSTROMSCHEIDER

Title (fr)

DISPOSITIF DE TRANSPORT ET D'ÉCHANGE DE CHALEUR À FLUIDE D'UN NOYAU DE FER D'UN DISPOSITIF ÉLECTROMAGNÉTIQUE, ET SÉPARATEUR À COURANT DE FOUCAULT

Publication

EP 3644477 A1 20200429 (EN)

Application

EP 19756313 A 20190304

Priority

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- CN 2019076820 W 20190304

Abstract (en)

A medium conveying and heat exchange device and a vortex flow separator for an iron core of an electromagnetic device is provided. The vortex flow separator includes a jet pipe and a vortex flow separation pipe, the vortex flow separation pipe includes a vortex flow chamber, and a cold end pipe section and a hot end pipe section located at two ends of the vortex flow chamber, respectively. The jet pipe is in communication with the vortex flow chamber, and compressed airflow flows through the jet pipe to form spiral airflow and flow into the vortex flow chamber in a tangential direction thereof. A cross-sectional area of the cold end pipe section is smaller than a cross-sectional area of the vortex flow chamber, and a cross-sectional area of the hot end pipe section is equal to or greater than the cross-sectional area of the vortex flow chamber. A valve having a cone-shaped surface is arranged inside the hot end pipe section, and after the spiral airflow enters the vortex flow separation pipe, external airflow of the spiral airflow flows toward the valve port, and is gradually heated to become hot airflow and then flows out through the valve port; central airflow of the spiral airflow passes by the cone-shaped surface of the valve and flows back, and is cooled to become cold airflow, and then flows out from the cold end pipe section, to serve as cooling and drying airflow of the input electromagnetic device. In this solution, a device for forming and generating cooling airflow can be arranged in a narrow space, which can improve the cooling and drying effect of the electromagnetic device at any time, and save energy.

IPC 8 full level

H02K 1/18 (2006.01)

CPC (source: CN EP US)

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